

6/6/2022

CONCEPTUAL DESIGN REVIEW: 20-1052 TUCANNON PA 34.1-34.2

To: Alice Rubin, RCO Grant Manager

From: Jeanette Smith, SRFB Technical Review Panel

The Columbia Conservation District is proposing stream enhancement and improvement of channel processes within the 34.1/2 geomorphic unit in the Lower Tucannon River at RM 11.4 – 12.9. Until recently, stream temperature and flow conditions minimized the use of the Tucannon River below RM 30 by adult steelhead and chinook. Changes made in the last decade have improved temperature and to a lesser degree, flow conditions enough that spawning surveys are reporting usage of spawning adults down to RM 20. The current project is lower in the system but is focused on improving conditions enough to encourage greater habitat availability/usage downstream. Cost/benefit issues are critical for this project given its placement lower in the basin.

The primary goal for this project as stated by the sponsor is to restore a healthy, naturally functioning river channel and floodplain by addressing the limiting factors in coordination and cooperation with the Tucannon River Programmatic Project to encourage growth and sustainability for anadromous salmonids in the future. The project is focused on improving spawning and rearing conditions for Steelhead and primarily over-wintering conditions for Spring chinook. It is possible that fall chinook and bull trout may benefit from project improvements as well.

The project was reviewed, funded and conditioned for conceptual design review in 2020 by the SRFB Review Panel. The Panel provided specific comments to be addressed in the development of alternatives. Since the project has been under contract, the sponsor has developed 3 alternatives and chosen a preferred alternative in a collaborative, stakeholder-driven process. The sponsor has presented a conceptual design for review based on the selection of Alternative 3 as the preferred alternative.

1. REVIEW OF ALTERNATIVES:

The development of alternatives, selection of a preferred alternative, and outline of a conceptual design do meet the minimum specifications for a conceptual design outlined

in SRFB Manual 18. However, the Panel does not think that the sponsor has adequately addressed the comments and recommendations provided by the Panel during the initial review.

The Columbia Conservation District efforts have focused on truly conceptual-level alternative identification and stakeholder negotiation. From a benefit to salmonids viewpoint, they have not sufficiently identified the trade-offs or relative cost/benefits between these alternatives. The preferred alternative may provide some limited degree of increased floodplain connectivity through the installation of a setback levee, but there was no articulation of what level of habitat improvement alternative 3 provides over alternative 1. Also, there are no additional actions (e.g., more LWM, pilot channel development...) proposed for habitat restoration after removing the existing levees and constructing the setback levees. All we really know is that there will be a setback levee that will cost a minimum of \$189,000, and the possibility of increased floodplain connection in a narrow corridor above the bridge and an alcove below the bridge. Alternative 2 would likely provide improved habitat benefits over Alternatives 1 and 3, as it removes existing levees without constructing setback levees. In the long term this option would provide the most opportunity for channel change, but it is highly unlikely the landowner would agree to in-channel changes without protection measures or the use of emergency action if major changes occurred.

In addition, it appears from the documentation provided, that the sponsor has yet to complete any substantive evaluation of habitat trade-offs or the positive/negative effects of the bridge in the middle of the reach. Instead, they include analysis of the bridge impacts as a deliverable in each alternative. When the project was reviewed in 2020, the Review Panel specifically called out the cost-benefit issue of the setback levee and the need to look at possibilities for widening the bridge, as it appears to significantly constrain channel migration. Evaluation of the bridge is in each alternative, but the Review Panel was hoping to see potential alternatives related to the bridge that could help inform the nature of the levee setbacks and the overall possibility of improved channel processes. For example, if the bridge was longer would there be a significant change in channel migration between the upper and lower portions of the project reach? What would this alternative look like in terms of the current levees and possible set back levee? The current bridge appears to be a constraint on the channel and floodplain. If a longer bridge were warranted either from a restoration potential or cost/benefit basis, additional ground to open up the channel would be required. Would the landowner entertain the idea of giving up a small portion of the production field upstream of the bridge in order to get a full setback levee? The Review Panel does not support moving to preliminary design until further analyses of the bridge and the potential habitat trade-offs between alternatives are reviewed in more detail.

A budget was only provided for Alternative 3, rather than for all three alternatives. Either all three budgets should be included in the design memo, or a comparison table of budgets should be provided along with expected levels of habitat improvement. This budget only includes \$21,000 for final design. Are all other design costs included in the current agreement, which is only for preliminary design? Greater explanation of some line items needs to be provided regardless of whether they are paid for by SRFB or other grants. There is a line item for sales tax at \$127,647. This is not usually seen as a line item. Also, the line item for access crossing improvements for \$170,000 needs explanation. What crossing is this for? What is the need? How does it impact the habitat alternatives?

2. CONCLUSIONS & RECOMMENDATIONS:

- i. The project sponsor has chosen a preferred alternative, but not all issues have been considered or addressed in the development of the alternatives, namely the existing bridge. Some evaluation of the bridge and its impact on the reach should have been completed prior to alternative development. As it stands now, it appears that no action will be taken on the bridge regardless of the outcome of future analysis. The sponsor needs to indicate if the location of the setback levee is negotiable and whether any additional restoration actions could be taken if changes are made to the bridge.
- ii. Trade-offs evaluated between the alternatives are focused on relative cost increases and protection of property and agricultural values, but don't adequately address changes to floodplain/channel processes and habitat uplift relative to increasing costs for the alternatives. A more detailed comparison of expected habitat and floodplain process improvements needs to be included in the alternatives analysis.
- iii. The budget provided is for the preferred alternative only and does not show the difference in cost between the three proposed alternatives. A comparison table of alternative costs needs to be provided. In addition, explanation is needed for several of the line items to adequately understand the costs of the proposed alternatives.
- iv. Cost/benefit comparisons are critical for this project given its location lower in the mainstem Tucannon River. This reach is lower than current spawning surveys indicate usage by adults and is situated at the junction with Pataha Creek, which is not in good condition and regularly produces high sediment load to this reach. Concerns remain over the expenditure for a setback levee in

comparison to extensive in-channel treatments as proposed in Alternative 1 and/or for more impactful improvements to other constraining infrastructure, such as the bridge.